MATERIAL SAFETY DATA SHEET MAPEP XaW Performance Standards

U.S. Department of Energy – Radiological and Environmental Sciences Laboratory **MSDS DATE:** 8/25/2011

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MAPEP Radionuclide Water Performance Standards

MANUFACTURER: U.S. Department of Energy
DIVISION: Radiological and Environmental Sciences Laboratory
ADDRESS: 2251 N. Boulevard, RESL-601, Idaho Falls, ID 83415

Product Name: Sodium Hydroxide, <0.01% / Sodium thiosulfate, < 0.01%, pH < 10
CAS#: Mixture.
RTECS: Not applicable.
TSCA: TSCA 8(b) inventory: Sodium hydroxide; Water

Synonym: Chemical Name: Not applicable.
Chemical Formula: Not applicable.

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300
International CHEMTREC, call: 1-703-527-3887
For non-emergency assistance, call: 1-208-526-2532

PRODUCT USE: Performance Evaluation Program – Analytical Standard
PREPARED BY: Radiological and Environmental Sciences Laboratory

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: sodium hydroxide, sodium thiosulfate and water with trace radionuclide constituents

CAS NO.		% VOL	SARA 313 REPORTABLE
1310-37-2	sodium hydroxide	0.01%	NA
7772-98-7	sodium thiosulfate	0.004%	NA
7732-18-5	water	99	NA
Trace radionuclide		NA	NA

Toxicological Data on Ingredients: Sodium hydroxide LD50: Not available. LC50: Not available.
Toxicological Data on Ingredients: Sodium thiosulfate: ORAL (LD50/LC50): no information available

SECTION 2 NOTES: Trace radionuclides constitutes less than 1% composition by weight.
MAPEP samples are not classified as radioactive (total activity < 2 nCi/gram).

SECTION 3: HAZARDS IDENTIFICATION

SODIUM HYDROXIDE <0.01%
Potential Acute Health Effects:
Hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.
Potential Chronic Health Effects:
Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

SODIUM THIOSULFATE, <0.01%
Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Nonpermeator by skin.
Potential Chronic Health Effects:
Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.

SECTION 4: FIRST AID MEASURES

In case of contact:

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Finish by rinsing thoroughly with running water to avoid a possible infection. Cold water may be used.

Skin Contact:
If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and water. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: NONE.
Risks of explosion of the product in presence of static discharge: NONE.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

SECTION 7: HANDLING AND STORAGE

Precautions:
Keep container dry. Do not breathe gas/fumes/ vapor/spray. Never add water to this product If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes Keep away from incompatibles such as acids.

Storage:
Alkalis may be stored in heavy duty gauge steel containers. Corrosive materials should be stored in a separate safety storage cabinet or room.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection: Face/eye shield. Lab coat. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Sodium hydroxide CEIL: 2 (mg/m3) from ACGIH [1995] Consult local authorities for acceptable exposure limits.
Sodium thiosulfate: Not Available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Liquid.

Odor: Odorless.

Taste: Alkaline. Bitter.

Molecular Weight: Not applicable.

Color: Clear Colorless.

pH (0.01% soln/water): < 10

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.01 (Water = 1)

Vapor Pressure: The highest known value is 17.535 mm of Hg (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water.

SECTION 10: STABILITY AND REACTIVITY

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Not available.
Incompatibility with various substances:
Reactive with oxidizing agents, acids. Slightly reactive to reactive with organic materials, metals.

Corrosivity:
Slightly corrosive in presence of aluminum, of zinc, of copper. Non-corrosive in presence of glass.

Special Remarks on Reactivity: Air and light sensitive.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Eye contact. Dermal contact. Ingestion.
Toxicity to Animals:
Sodium hydroxide: LD50: Not available. LC50: Not available.
Sodium thiosulfate: Acute oral toxicity (LD50/LC50): Not available

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (corrosive, irritant), of ingestion. Slightly hazardous in case of inhalation.

Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans: Not available.
Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.
BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA HAZARD CLASS: Corrosive

SECTION 14: TRANSPORT INFORMATION

SODIUM HYDROXIDE, 0.01%

DOT Classification: Not a DOT controlled material (United States).
Identification: : Not Applicable
Special Provisions for Transport: Not available.

SODIUM THIOSULFATE, 0.01%
DOT Classification: Not a DOT controlled material (United States).
Identification: Not applicable.
Special Provisions for Transport: Not applicable.

SECTION 15: REGULATORY INFORMATION

Federal and State Regulations:
Pennsylvania RTK: Sodium hydroxide Massachusetts RTK: Sodium hydroxide TSCA 8(b) inventory: Sodium hydroxide; Water
Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications:
WHMIS (Canada):
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
CLASS E: Corrosive liquid.

DSCL (EEC): R36- Irritating to eyes.

HMIS (U.S.A.):
Health Hazard: 2
Fire Hazard: 0
Reactivity: 0
Personal Protection:

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 0
Reactivity: 0
Specific hazard:

Protective Equipment: Gloves. Full suit. Wear appropriate respirator when ventilation is inadequate. Face shield.

SECTION 15: REGULATORY INFORMATION (continued)

--------\Federal, State & International Regulations ----------

	-SARA 302-		------SARA 313------			-RCRA-	-TSCA-
Ingredient	**RQ**	**TPQ**	**List**	**Chemical Catg.**	**CERCLA**	**261.33**	**8(d)**
Nitric Acid (7697-37-2)	**1000**	**1000**	**Yes**	**No**	**1000**	**No**	**No**
Water (7732-18-5)	**No**	**No**	**No**	**No**	**1000**	**No**	**No**

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2PE
Poison Schedule: S6
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:
NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0 Other: Oxidizer

Label Hazard Warning: POISON! DANGER! OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. LIQUID AND MIST MAY CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG AND TOOTH DAMAGE.

Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep from contact with clothing and other combustible materials.
Do not store near combustible materials.
Store in a tightly closed container.
Remove and wash contaminated clothing promptly.

Label First Aid:
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

PRODUCT USE: Laboratory Use Only – RESEARCH.

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